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Measuring Norms of Income Transfers: Trust Experiments and Survey Data from Vietnam

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Abstract

This paper compares the patterns of income transfers within village communities in the north and south of Vietnam by analyzing household survey and experimental data. The results of household data analysis show private transfers flow from high-income households to low-income households in the south where social safety net is limited. In contrast, private transfers do not correlate with pre-transfer income in the north where public transfers are more widespread. In addition, public transfers crowd out private transfers in the north. We conducted a trust game in both regions and found consistent results. People in the south are more altruistic toward the poor: they send more to the poor without expecting higher repayment. This pattern is consistent with the idea that private norms of redistribution from rich to poor are active in the south, but are crowded out in the north, possibly by communist public institutions, although we observe higher levels of trust and reciprocity in the north.

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This paper compares patterns of income transfers between rich and poor population segments of village communities in the north and south of Vietnam by analyzing survey and experimental data.

Transfers are important because people living in low-income countries often get caught in a poverty trap, spending all they earn, saving little, if any, living from hand to mouth and barely making ends meet. For these people, having social relationships and ties is critical for survival. Even for those who are not usually in need, the social network becomes important when natural disasters or crop failures cause income fluctuations, making it difficult for them to sustain the minimum standard of living.

Fukuyama (2002) and Putnam (1995) among others, argue that social capital is a crucial factor in facilitating institutional and economic development. Putnam (1995) defines social capital as "features of social life – networks, norms and trust – that enable participants to act together more effectively to pursue shared objectives." Fukuyama (2002) describes social capital as "any instance in which people cooperate for common ends on the basis of shared informal norms and values", and claims social capital is "simply a means of understanding the role that values and norms play in economic life." Knack and Keefer (1997) find simple expressions of trust (from the General Social Survey) correlate with economic success across countries.

One kind of social capital is the willingness to provide social insurance in the form of private transfers. In developing countries where the social safety net is inadequate, private transfers between households play an important role in smoothing out income shocks (Cox et al., 2004, Cox and Jimenez, 1998, Rosenzweig and Stark, 1989, Townsend, 1994). However, it has been demonstrated that public transfers may crowd-out private transfers (Becker, 1974, Cox, 1987, Cox and Jimenez, 1992).

Recently, there has been a substantial rise of experimental research on games and decisions related to social capital (Camerer, 2003, chapter 2, Glaeser et al., 2000, Karlan, 2005). An experiment enables us to observe social interactions in controlled environments. By carefully controlling the information subjects are provided, we can examine how social and economic status affects the way people interact (Bernhard et al., 2006, Falk and Zehnder, 2007, Fershtman and Gneezy, 2001, Habyarimana et al., 2009, Wilson and Whitt, 2007). However, as Wilson and Eckel (forthcoming) point out, it is sometimes difficult to judge whether the behaviors observed

in an experiment mimic behavior in a particular naturally-occurring setting which has many different features. (A similar concern arises in generalizing from one exotic field experiment to likely behavior in a different location, so the problem of generalizability is not special to artificial abstract experimental choices; see e.g., Banerjee and Duflo, in press).

In this paper, we combine survey and experimental data from Vietnam and try to link evidence on transfers in the survey data to corresponding behavior in experiments on pro-social trust, conducted for high stakes.[1] We use the trust game, which has been used to study social exchange in many studies (Camerer and Weigelt, 1988, Berg et al., 1995, Bohnet et al., 2008, Glaeser, et al., 2000, Karlan, 2005, King-Casas et al, 2006). Using the trust game, we can examine whether people are willing to make transfers to others when there is no guarantee that their kindness will be reciprocated.

Vietnam has several advantages as a research site:

1. Northern and Southern Vietnam have different political histories. Villages in the north moved rapidly toward collectivization under communism in the 1950s, while people in the south resisted collectivization. By 1986, less than 6 percent of the farmers in the south participated in cooperatives, while about 95 percent of farmers in the north belonged to cooperatives (Pingali and Xuan, 1992, Xuan, 1995).[2] Cooperatives were not only the units of agricultural production, but also provided social safety net to their members (Kolko, 1997).

2. As a result of the difference in the history of collectivization, a large social safety net system exists in the north, and only a limited social safety net exists in the south. This difference enables us to compare the pattern of public and private transfers in both regions, and investigate whether public safety net crowds out private transfers.[3] We expect that public transfers crowd out private transfers in the north, but not in the south.

3. A 2002 living standard survey conducted in Vietnam enabled us to link survey responses from individuals directly to experimental responses by the same individuals with very

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[1] Bahry and Wilson (2004) also conducted trust game with a subset of households which were covered in a large household survey in Russia.

[2] Fox and Joiner (1964) conducted a survey in the south Vietnam before the unification and observed animosity toward northerners among southerners. It may partly explain why southerners resisted collectivization after the unification.

[3] Alesina and Fuchs-Schundels (2007) examined the effects of communism on preferences for public policies by analyzing household survey data collected in former Eastern and Western Germany (2007). They found that people in former Eastern Germany showed a stronger preference for redistributive policies than people in former West Germany.

little sample attrition. Having the previous survey responses also enabled us to handpick a sample of villages with a wide range of average incomes to study the effect of cross-village income differences. This use of detailed survey data to control the design (by stratifying samples) and to link survey results to experimental results is essentially impossible to do in many other settings (including typical lab experiments).

4. Vietnamese villagers are mostly poor. As a result, it is easy to motivate them with financial stakes that are affordable and moderate by Western standards, but have a lot of local purchasing power (about 10 times as high as typical Western lab payments). This feature of experiments in poor countries addresses a long-standing concern about whether behavioral patterns are sensitive to the money at stake (they generally do not seem to be). At the same time, Vietnamese are also highly literate, so we can be confident that they comprehend experimental instructions.[4]

Our results of household data analysis show the probability of receiving private transfers increases with pre-transfer income in the south, where the social safety net is limited. In contrast, the probability of receiving private transfers does not correlate with pre-transfer income in the north where public transfers are more widespread. Public transfers also crowd out private transfers in the north.

The household survey data does not tell us the identities of the senders and receivers of private transfers. Therefore, we cannot distinguish private transfers made among family and non-family within village communities. We conduct a trust game to directly measure the patterns of social exchange in both regions, and found consistent results. People in the south are more altruistic toward the poor: they send more to the poor without expecting higher repayment. This pattern is consistent with the idea that private norms of redistribution from rich to poor are active in the south but are crowded out in the north, possibly by communist public institutions.

Patterns of Private Transfers in Vietnam: Household Data Analysis

[4] According to the World Bank (2005), 45% of the rural population lives below the poverty line. So modest experimental payments, by Western standards, amount to several days' wages. At the same time, the national literacy rate is around 90% (and is slightly higher in our sample), There are only three countries which are both poorer (lower GNP per capita) and more literate-- Kyrgyzstan, Tajikistan, and Uzbekistan (World Bank, 2005).

In this section, we analyze the 2002 Vietnam Household Living Standard Survey (VHLSS) to investigate the patterns of private transfers in the north and south of Vietnam. The survey was conducted with 3,848 households in the Red River Delta (in the north) and 3,972 households in the Mekong River Delta (in the south).

Theoretical Predictions

Two motives for private transfers have been modeled and measured in the literature: altruism and self-interested exchange (Cox, 1987, Cox et al., 1998). Under the altruism hypothesis, private transfers are designed to enhance the utility of the recipient (and to indirectly satisfy the giver through a taste for altruism). The exchange hypothesis is that private transfers represent a kind of social insurance or karmic giving. Generous transfers are expected to be noticed and remembered by the recipient, who is in turn expected to repay with transfers back to the giver in the future, when they are valuable. This kind of exchange functions as an informal banking system; a transfer is like money in a social bank of favors. Both altruism and exchange hypotheses predict that the probability of any private transfers is inversely related to the pre-transfer income of recipients (needy recipients get more). Regarding the amount of any transfers, an increase in recipients' income is expected to reduce the amounts of transfers under the altruistic motivation hypothesis (since higher-earning recipients are less needy), whereas the exchange hypothesis does not necessarily predict such a crowding-out effect (since transfers to relatively-wealthy recipients might have a higher chance of being repaid in the future).

The answer to the question of whether private transfers are motivated by altruism or by self-interested exchange has important policy implications. Under the altruism hypothesis, public transfers will crowd out private transfers. Under the exchange hypothesis, public transfers will not crowd out private transfers. The empirical evidence is mixed. Studies from rural Indonesia (Ravallion and Dearden, 1988) and the Philippines (Cox, et al., 2004) support the altruistic motivation hypothesis. Other studies report evidences which are consistent with the exchange hypothesis and are inconsistent with the altruistic motivation hypothesis (Cox, 1987, Cox and Rank, 1992, Cox, et al., 1998).

We hypothesize public transfers may crowd out private transfers in the north because public transfers are prevalent in this region, while public transfers do not crowd out the level of private transfers in the south.

Results

Table 1 shows the number of households receiving private transfers, as well as overseas remittances and public transfers. Private transfer is extensively practiced in both regions (82% in the north and 75% in the south). However public transfers are more widespread in north (23%) than in south (8%).

Figure 1 graphs the mean income of the households by type of transfers they receive. The graph shows the mean income of households receiving public transfers is above the mean income in the north (after transfers), while the mean income of households receiving public transfers is below the mean income of the region in the south. This suggests that while public transfers are limited in number in the south, they are targeted toward the poor.

We conducted probit regressions for the probability of receiving private transfers, and OLS regressions using the amount of private transfers received as the dependent variable for both regions. Table 2 shows regression results. (See Table A.1 in the Appendix for variable definitions.)

Let us first look at the factors correlated with the probability of receiving private transfers. Pre-transfer income (defined as income minus private transfers, public transfers and oversea remittance) is negatively correlated with the chance of receiving private transfers in the south, but not in the north. Mean village income is positively correlated with the chance of receiving private transfers in the north but is negatively correlated with the probability of private transfers in the south. Overseas is negatively correlated and hence crowds out private transfers in both regions. Senders of private transfers are more likely to also receive private transfers in both regions, suggesting private transfers are partly motivated by exchange. The amount of the public transfers is negatively correlated with the chance of receiving private transfers in the north but not in the south, indicating the crowding out effects of public transfers on private transfers in the north. Households with household heads who are underemployed, female, or especially young or

old are more likely to receive private transfers in north. The village Gini coefficient is negatively correlated with the probability of private transfers in both regions. Since a high Gini coefficient indicates substantial inequality, this correlation means more income-equal villages have more private transfers.

The amount of the transfers is positively correlated with mean village income and with the probability that a person sends any transfer, in both regions. Pre-transfer income is negatively correlated not only with the chance of receiving private transfers but also with the amount of private transfers received in the south. This suggests private transfers flow from high-income households to low-income households in the south and are altruistic rather than exchange-motivated.

In summary, the results of household data analysis show private transfers flow from high-income households to low-income households in the south where social safety net is limited. In contrast, private transfers do not correlate with pre-transfer income in the north. In addition, public transfers crowd out private transfers in the north where public transfers are more widespread. Our empirical results from the south are partially consistent the altruism hypothesis of Cox (1987). The amount of private transfers is correlated with pre-transfer income. However, contrary to the altruism hypothesis of Cox (1987), our empirical finding suggest the probability of private transfers also correlate with pre-transfer income.

To see these patterns another way, we pooled the data from the south and north and conducted regressions with regional interaction term "North" for each of the independent variables used in Table 2. The regressions results are shown in Table A.2 in the Appendix. The interaction term "North" for public transfers is significant at the 10% level.

The survey data does not tell us the identities of the senders and receivers of private transfers. Therefore, we cannot distinguish private transfers made among family and non-family within village communities. However, according to Cox (2002), only 32% of households received private transfers from family and relatives in the 1992/93 and 1997/98 household survey, while the 2002 household data indicates 82 and 85 percents of households received some kind of private transfers. This suggests a substantial percentage of private transfers are made among non-relatives in our data.

The Trust Game

The results from the survey data analysis indicate that private transfers generally flow from the rich to the poor in the south, while this is not the case in the north. However, the survey data does not tell us the identities of the senders and receivers of transfers. Thus, we do not know whether there exists a norm of income redistribution from the rich to the poor within communities. In order to directly observe whether individual people are willing to transfer money to the poor, we conducted a trust game with a subset of household members who were interviewed in the 2002 living standard measurement survey.

We conducted the trust game of Berg, Dickhaut and McCabe (1995), a continuous relative of the binary trust game introduced much earlier by Camerer and Weigelt (1988). The trust game is played by two players; Player 1 and Player 2. Both Player 1 and Player 2 are endowed with 20,000 dong, about a day's wage in Vietnam.[5] Player 1 is then given a chance to send some money to Player 2 (in multiples of 2,000 dong). The experimenter triples the amount sent before it reaches Player 2. Player 2 is then asked to send back as much money as he wants (including zero).

The trust game can be viewed as a highly stylized model of efficient (mutually-beneficial) investment with no contractual protection against moral hazard (i.e., Player 2 can keep all the money without an explicit penalty for doing so). At the same time, it can also be seen as a temporally-compressed version of a social exchange game in which one player gives money presuming another player will give some of it back. Player 2's repayment is a measure of moral obligation or positive reciprocity. Player 1's initial investment combines altruistic giving and an expectation of repayment. Nava Ashraf, Iris Bohnet and Nikita Piankov (2004), Michael R. Carter and Marco Castillo (2002), and Håkan J. Holm and Anders Dalienson (2005) demonstrate how trusting behavior can be apparent evidence of altruism, because trusting investors often do not expect to have much money repaid.

There are many studies using trust games. An important difference between our study and others is that we divided subjects into three wealth groups, namely, high-income, middle-income

[5] The exchange rate at the time of the experiments was about 16,000 dong/dollar.

and low-income groups, and investigated whether people change their behavior when they are matched with people of different wealth levels.

Having observed that private transfers flow from the rich to the poor in the south, we predict Player 1 sends more to Player 2 if Player 2 belongs to a low-income group in the south. We may observe in-group bias in the north, i.e., people trust more and reciprocate more toward the people in their own group, since people worked together in collective farms for many years in the north.

Selection of Research Sites and Experimental Procedure

In July-August 2005, we conducted a trust game[6] with members of households who were previously interviewed during a 2002 living standard measurement survey. In the 2002 survey, 25 households were interviewed in 142 rural villages in the Mekong Delta (in the south) and 137 rural villages in the Red River Delta (in the north). From these, we chose nine villages, five villages in the south and four villages in the north, with substantial differences in mean income, inequality, and market access to permit statistically powerful cross-village comparisons.

Some descriptive statistics about the nine experimental village sites are given in Table 3. See Table A.1 in the Appendix for variable definitions. The southern villages are indexed by S1, S2, S3, S4, and S5 (where S1 indexes the highest village wealth and S5 indexes the lowest), and northern villages are indexed by N1, N2, N3, and N4, respectively.

A week before the experiments, research coordinators contacted local government officials in each research site, and asked them to invite one person from each of the 25 previously surveyed households to the experiments.[7] The response rate was high (82 percent), which limits concern about self-selection in participation. Figure A.1 in the Appendix shows pictures of all research sites (village meeting rooms or school classrooms).

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[6] Risk and time discounting experiments were also conducted after the trust game, and are reported in Tanaka, Camerer and Nguyen (fothcoming)

[7] Village officials were asked to prepare one extra subject in case the total number of subjects turned out to be an odd number (because an even number of subjects are needed to play the trust game). In three out of nine villages, an odd number of subjects showed up to the experiment. In those villages, we included an additional subject in the experiment to create an even number in order to do pairwise trust game matching. We did not have 2002 survey data from these "equalizer" subjects. We followed village officials' advice when placing the additional subjects into respective income categories.

Before the experiments, potential subjects were divided into three groups, H, M and L (high, medium, and low) based on their wealth from the 2002 survey.[8] Groups H, M and L were called Groups A, B, and C in the experiments. Subjects were assigned ID numbers upon arrival. Their IDs are numbered by A1, A2,…, B1, B2, …. C1, C2,.. After all subjects arrived, we assigned them seats according to their subject IDs. Subjects in Group A, B and C were seated on the right, middle and left sides of the room, and were given white, yellow, and red ID tags and folders, respectively. They were not told the grouping was based on wealth, because we did not want to induce demand effects (i.e., a presumption, inferred from visible categorization, that wealth categories should matter in their choices) but most people in these small villages know each other and their approximate wealth very well.

After an experimenter reads the instruction, the subjects solved a quiz. Illiterate subjects and subjects who had difficulty understanding the game were helped by research assistants.[9] After having solved the quiz, subjects went out of the room, one by one, and drew numbered balls in a bingo cage. The subjects who drew odd numbers were assigned the roles of Player 1. Subjects who drew an even number were assigned the role of Player 2. Figure A.2 in the Appendix illustrates the experimental procedures.

We used the strategy method, asking Player 1 how much they would send to Player 2 if Player 2 was in each of Groups A, B and C, respectively. Therefore, there is a within-subject comparison of how Player 1's react to player 2's in different income groups (which is much more powerful than between-subjects comparisons). In addition, Player 1's reported how much they expected to get back from Player 2 in Group A, B and C, respectively. We used the strategy method for Player 2 as well, asking how much they would send back to Player 1 for each of the ten possible positive investments. The English translation of the instruction is provided in the Appendix.

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[8] To create H, M and L groups we ranked households by their total income, per capita household income and per capita expenditure using the 2002 living standard measurement, respectively. If a household is within top eight in all three criteria among 25 households, or two criteria are within the top eight and the other criterion is in the middle range (ranking between 9 and 16), then the household is categorized as Group H. If all three criteria are within the bottom 8 among the 25 potential households, or two criteria are within the bottom 8 and the other criterion is in the middle range, then the household is categorized as Group M. The rest of households are categorized as Group L.

[9] Since the waiting time was long for the subjects who could not finish the quiz quickly, we had enough time to explain the game to those slow subjects. Eventually, all subjects passed the quiz.

There are many challenges of field experiments like these, and some advantages. The challenges include these: To the extent subjects respond to perceived experimenter demands or are influenced by some kind of experimenter authority, such effects could conceivably be magnified in these settings (a challenge familiar to every anthropologist). Translating languages is sometimes important since the words used to describe these exchange games can influence behavior (we used back-translation in which the Vietnamese coauthor translated instructions from English and then another coder translated that translation back to English so we could check what mutations occurred in the round-trip across languages). The fact that our results are generally comparable to those in many other populations suggests demand and language translation effects are not dramatically changing the results compared to other experiments.

Vietnam also presented a surprising advantage over many other experimental settings because the subjects took the experiments very seriously. They were attentive and asked questions—more so than many Western college subjects, who often skim instructions and sometimes make avoidable mistakes that significantly impact experiment results. The household survey data also allowed us to know more about the socioeconomic characteristics of our subjects than in almost any experiments ever conducted in a typical Western psychology lab. The survey data also provided us a rich list of variables to control for other factors that correlate with income (such as education and ethnicity). This extra data is extremely useful since most studies focus on a single interesting sociodemographic dimension, such as gender or ethnicity, and do not control at all for obvious covariates with that focal dimension.

Experimental Results

The mean amounts sent by Player 1 in the trust game were 5,707 dong and 7,840 dong in the south and north, respectively. Player 1 in the north sends significantly more to Player 2 than Player 1 do in the south (paired t-test, $p=0.01$). The fractions sent by Player 1's in the south and north were 28 percent and 40 percent, respectively. Player 2's in the north sends back significantly more to Player 1's than Player 2's do in the south (paired t-test, $p=0.002$). However, these repayment rates are a little lower than other studies conducted in Zimbabwe, South Africa,

Honduras, Tanzania, Kenya, Bangladesh, Peru, Uganda, and Paraguay (see Cardenas and Carpenter (2005) for a review).[10]

Figure 2 illustrates the mean amount sent by Player 1 (the sender) in each village. The most striking difference is in the south where there is a substantial gap between the mean amounts sent to different groups of receivers: the southern subjects send more to the lower income group (Group L) and less to the high income groups (Group H). This pattern is visible in all the villages in the south except S2. However, notice from Table 3 that the Gini coefficient of village S2 is small, 0.19, and the mean income of groups M and L are close. It may have been difficult for the subjects to recognize any difference in wealth between groups M and L (or to care as much about helping the relatively-well-off group).. In contrast, there is no significant difference in the amount sent by income group of receivers in northern villages. As shown in Table 3, the Gini coefficient of northern villages are similar to those of the southern villages, so the difference in behavior cannot be due to village-level differences in inequality in the north and south.

The mean amount sent by Player 1 in the south and north (aggregating across villages) is shown in Figure 3. All three income groups send significantly more to the low and medium income groups than to the high income group in the south. On the contrary, Player 1s in the north do not differentiate the amount sent to different income groups, except for medium income group which sends significantly more to their own group members than to the high-income group members. We do not observe in-group bias either in the north or south, i.e., neither Player 1 nor Player 2 send significantly more to members of their own groups.

Figure 4 shows the mean expected return by income group of Player 2. The expected return ratio is calculated as the expected amount of money back divided by the amount of money sent (tripled amount). Both in the south and north, Player 1 do not expect higher returns from the low-income group. A natural interpretation of the tendency in the south therefore is that the subjects give more to the poor (the L group), and less to the rich (the H group) because they are redistributing wealth, not because they expect repayment. The fact that this pattern is less evident in the north suggests an effect of political institutions crowding out private transfers—in the

[10] Barr (1999, 2001), Ensminger (2000), Carter and Castillo (2003, 2002), Mosley and Vershoor (2003), Johansson-Stenman et al. (2004), Holm and Danielson (2005), Karlan (2005), and Schechter (2005).

north, communist redistribution equalizes resources, but in the south, villagers privately redistribute income from rich to poor on their own.

Table 4 shows the results of linear regressions on the amount sent by Player 1. We conducted regressions for the south and north separately.[11] We also pooled data from two regions and conducted regressions with regional interaction terms "North". The results of the pooled data analysis are shown in Table A.3 in the Appendix. The regression results demonstrate Player 1s send significantly larger amount of money to lower income groups, Groups M and L, in the south while this redistribution trend is much weaker in the north. This is consistent with our earlier observation that Player 1 in the south send significantly more to the low and medium income groups than to the high income group while Player 1 in the north do not differentiate the amount sent to different income groups. It also suggests there may exist different sharing norms in the south and north.

In the north, Player 1s who received a higher amount of oversea remittance and private transfers send significantly more to Player 2, an indication of communal sharing. On the contrary, in the south, individuals who received a higher amount of private transfer send significantly less, while those who gave out a higher amount of private transfer send significantly more to Player 2. In both regions, the members of households which made larger public donations also send a significantly larger amount of money to Player 2. The Gini coefficient effect on trust is negative and significant in the south, (i.e., trust is highter in more income-equal villages) and is also significant for the pooled data estimations. Our findings support Knack and Keefer's (1997) conclusion that trust is positively correlated with equality.

Figure 5 illustrates the amount of money sent back by Player 2 in each session. The x and y axes represent the amounts sent and returned, respectively. The amount returned is greater than the amount sent in most northern villages and across all income groups, indicating trust pays off in the north. By contrast, the amount returned is greater than the amount sent only for Group L in Villages S1 and S2, the wealthiest villages. It may be that Group L in these wealthy villages felt they needed to prove they are not underprivileged.

[11] Since there are repeated observations on individual subjects, we specified that the observations are not independent within subjects. We also ran regressions with the survey responses to the GSS questions on trust, fairness and helpfulness, but they were not significant.

Table 5 presents the results of generalized linear model estimations on the proportion of money sent back by Player 2.[12] The results of pooled data analysis are shown in Table A.4 in the Appendix. In the north, being male, lower donations, high relative income within the village and engagement in trading activities are correlated with reciprocity. In the south, lower donations, engagement in trading activities, high relative income within the village, and the number of government officers present in the experimental session are positively correlated with reciprocity. Fishermen and people living in wealthier villages reciprocate less. People in the middle and low income groups reciprocate less, but if they live in wealthier villages, they reciprocate more, which is consistent with our earlier observations.

Coefficients of relative income are positive in both regressions. This implies wealthy individuals are more inclined to reciprocate.

Conclusion

Private transfers between households play an important role in risk sharing in developing countries. However, private transfers could be crowded out by public transfers. We explore this question by combining a detailed household survey of Vietnamese villages with original experiments on trust investment games. Vietnam is an especially interesting target location because the history of communism in the north (and post-1975, in the south) creates a natural historical accident that could influence long-held behaviors. We also have unique access to detailed survey data and, since Vietnamese are typically poor but highly literate, and thus present a ready pool of subjects who comprehend experimental instruction and are highly motivated by money.

While there are many subtle details in our findings, there are three basic implications. First, the survey data shows that private transfers flow from high-income households to low-income households in the south, representing voluntary redistribution or social insurance. In the north however, private transfers do not correlate with recipient pre-transfer income (the poor are not getting more) and public transfers crowd out private transfers. Second, the trust game data largely reproduces this pattern of voluntary redistribution which is stronger in the south than in

[12] We estimated a generalized linear model with a logit link and the binomial family because the dependent variable is a proportion.

the north. This is consistent with the idea that trust in the south represents altruistic giving. Third, we observe higher trust and reciprocity in the north. This is consistent with a "crowding in" of socialistic attitudes toward sharing in the north which spill over to these games.

In any cross-sectional study like this, it is difficult to infer the direction of causality from correlation: Did the difference in the history of collectivization shape different social relations in two regions? Or did the difference in the history of communism in two regions originate from different social structures across two regions? While our study was designed to compare social relations in two regions, it was neither designed to infer causality from correlation, nor to investigate how the social structures before communism affect the present social relations.

Terry A. Rambo (1973) reports that the village communities were different in the north and south before communism. Northern villages had communally-owned land, public granaries for famine relief, and crop-watching societies, while southern villages did not. Rambo conjectures that environmental differences in the two regions influenced the formation of such different social structures. Northern Vietnam was characterized by high population density, a shortage of land, and a severe natural environment. People had to cooperate to build extensive systems of dikes to protect their farmland and dwelling from floods. On the other hand, Southern Vietnam was lightly populated, and land was abundant. Flood control was not a major concern in the south, and there was no need for people to organized themselves to protect their lives.

It is possible that higher levels of trust and reciprocity observed in north originate from the social structure that existed in the pre-communist era. However, if the northern village community had a more effective social safety net system and a stronger sense of solidarity in the pre-communist era, as Rambo argues, then we should observe large income transfers to the poor in the north rather than in the south. Our results of household data analysis and experiments are inconsistent with this hypothesis. We conjecture that the establishment of communist public institutions, after the era of spontaneous social cooperation Rambo documents, crowded out private transfers and altruistic attitudes toward the poor in the north.

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Table 1: Number of households which received transfers in the 2002 household survey

	North	(%)	South	(%)
Total number of households interviewed	6,349		6,294	
Number of households receiving no transfers	820	(13)	1,250	(20)
Number of households receiving oversea remittance	201	(3)	406	(6)
Number of households receiving (domestic) private transfers	5,220	(82)	4,738	(75)
Number of households receiving public transfers	1,469	(23)	521	(8)

Table 2: Determinants of private transfers

	Probability of receiving private transfers		Amount of private transfers	
	North	South	North	South
Income before transfers	-0.002	-0.004 ***	0.001	-0.005 *
	(0.001)	(0.001)	(0.004)	(0.003)
Mean village income	0.008 **	-0.007 *	0.038 ***	0.043 ***
	(0.004)	(0.004)	(0.008)	(0.009)
Oversea remittance	-0.030 ***	-0.020 ***	-0.022 ***	-0.002
	(0.008)	(0.005)	(0.006)	(0.009)
Public transfer	-0.031 ***	-0.017	-0.016	0.026
	(0.011)	(0.023)	(0.044)	(0.577)
Sender of private transfers	0.200 **	0.338 ***	0.285 **	0.458 ***
(dummy)	(0.097)	(0.048)	(0.119)	(0.088)
Education cost	0.580 *	0.256	-0.511	-0.685
(% of income)	(0.332)	(0.476)	(0.459)	(0.762)
Health cost	0.493	0.148	0.752 ***	1.110 **
(% of income)	(0.385)	(0.207)	(0.247)	(0.484)
Wedding cost	2.482 ***	2.919 ***	11.742 ***	21.559 ***
(% of income)	(0.927)	(0.829)	(1.335)	(2.635)
Funeral cost	0.106	1.845 ***	2.891 *	2.686 *
(% of income)	(0.373)	(0.535)	(1.560)	(1.411)
Male headed	-0.255 ***	0.011	-0.710 ***	-0.119
(=1 if male headed)	(0.074)	(0.660)	(0.203)	(0.129)
Education	0.015	0.018 **	0.100 ***	0.058 ***
	(0.010))	(0.007)	(0.020)	(0.020)
Age	-0.026 **	-0.009	0.000	0.002
	(0.013)	(0.010)	(0.024)	(0.021)
Age^2	0.000 ***	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Divorced	-0.135	0.154	-0.660	-0.006
	(0.213)	(0.162)	(0.410)	(0.224)
Single	0.048	0.063	-0.519 **	-0.233
	(0.176)	(0.158)	(0.247)	(0.209)
Widow	0.004	0.093	-0.428 *	-0.116
	(0.108)	(0.840)	(0.251)	(0.171)
Separated	0.054	0.231	-0.633 **	-0.311
	(0.318)	(0.255)	(0.320)	(0.294)
Working days	-0.011 ***	-0.001	-0.008	-0.003
	(0.004)	(0.003)	(0.010)	(0.007)
Gini coefficient	-2.085 ***	-1.568 ***	-0.603	-0.786
	(0.353)	(0.262)	(0.839)	(0.493)
Constant	1.906 ***	1.031 ***	-0.045	-0.601
	(0.355)	(0.287)	(0.716)	(0.559)
Observations	3848	3972	3848	3972
(Pseudo) R^2	0.05	0.004	0.09	0.11

Note: * Significant at the 10% level. ** Significant at the 5% level. *** Significant at the 1% level. Robust standard errors are in parentheses.

Table 3: Descriptive statistics

	S1	S2	S3	S4	S5	N1	N2	N3	N4
Number of subjects (Number of Chinese subjects are in parentheses)									
Total	22 (9)	16	18	22 (1)	22	18	22	24	20
Of which ethnic Chinese	9	0	0	1	0	0	0	0	0
Group H	6 (4)	5	7	7 (1)	7	5	8	8	6
Group M	9 (3)	7	7	9	9	6	7	9	9
Group L	7 (2)	4	4	6	6	7	7	7	5
Mean household income in 2002 (in 1 million dong)									
Total	36.6	35.8	20.3	18.5	15.0	28.0	17.5	9.1	6.8
Group H	80.6	51.9	26.1	32.6	29.5	49.0	29.2	14.4	13.5
Group M	21.3	29.9	19.9	14.9	11.8	26.8	13.4	7.8	5.0
Group L	18.4	26.1	10.6	6.9	5.3	14.0	8.2	4.7	2.1
Age (mean)	47.7	44.6	48.8	43.1	48.3	54.1	42.5	49.9	48.6
Gender (mean)	0.59	0.88	0.83	0.68	0.82	0.44	0.36	0.50	0.50
Education(mean)	7.2	7.1	8.4	5.8	5.0	7.8	8.0	4.8	7.6
Literacy rate	0.95	0.94	0.95	0.95	0.91	0.89	0.95	0.83	0.90
Acquaintance ratio (mean)	0.42	0.86	0.76	0.74	0.82	0.62	0.91	0.98	0.90
Main occupation of the subject in percent (multiple answers allowed)									
Farming	0	13	17	91	77	6	0	83	75
Livestock	5	19	56	50	32	6	45	54	10
Fishery	0	94	22	9	9	0	0	17	0
Trade	36	0	0	5	5	28	14	8	5
Business	23	0	17	0	5	6	14	8	10
Government officer	9	19	22	14	14	22	18	25	10
Casual work	27	0	11	5	14	0	5	17	10
Not working	23	0	17	0	9	50	9	8	15
Village-level data from the 2002 Living Standard Measurement Survey (25 households)									
Village Gini coefficients	0.44	0.19	0.30	0.36	0.38	0.29	0.38	0.28	0.36
Distance to nearest market	0.0	5.0	0.0	4.2	0.0	0.0	1.0	3.0	0.3
Daily wage for male labor for harvesting (1000 dong)									
	-	-	30	30	30	18	18	20	20

Table 4: Determinants of the amount sent by Player 1

	North			South		
Chinese				-775	(1,313)	
Age	159	(343)		-48	(145)	
Age^2	-2	(4)		-1	(2)	
Gender	2,678	(2,011)		1,013	(870)	
Education	260	(207)		-379	(104)	***
Oversea remittance	343	(79)	***	10	(16)	
Public transfers	278	(523)		460	(850)	
Private transfers (received)	646	(220)	***	-337	(138)	**
Private transfers (sent)	-3,299	(3,479)		1,404	(650)	**
Donation	14,889	(7,343)	**	25,769	(13,945)	*
Acquaintance ratio	7,246	(6,329)		1,617	(1,446)	
Farm/livestock	-1,833	(1,783)		-1,910	(1,176)	
Fishery	-4,640	(2,817)		-3,756	(1,881)	*
Trade	2,936	(2,634)		4,672	(820)	***
Business	-5,012	(3,136)	*	-1,863	(948)	*
Government officer	7	(1,942)		-2,301	(1,264)	*
Relative income	-524	(1,062)		-1,213	(585)	**
Mean village income	-252	(120)	**	160	(50)	***
Gini coefficient	-51,359	(33,568)		-16,432	(7,573)	**
Number of officers	368	(1,026)		114	(130)	
Group M	634	(551)		1,866	(404)	***
Group L	1366	(730)	*	2,589	(612)	***
Constant	15,618	(11,209)		11,320	(3,582)	***
Observations	123			147		
R^2	0.43			0.46		

Note: * Significant at the 10% level. ** Significant at the 5% level. *** Significant at the 1% level. We conducted robust regressions, and adjusted standard errors for correlations within individuals. Robust standard errors are in parentheses.

Table 5: Determinants of the proportion sent back by Player 2

	North		South	
Chinese			0.264	(0.234)
Age	-0.012	(0.042)	0.015	(0.047)
Age^2	0.000	(0.000)	0.000	(0.000)
Gender	0.737	(0.137)***	0.217	(0.217)
Education	-0.021	(0.023)	-0.021	(0.030)
Oversea remittance	-0.002	(0.005)	0.011	(0.017)
Public transfers	-0.047	(0.042)	-0.523	(0.173)***
Private transfers (received)	0.043	(0.030)	0.084	(0.059)
Private transfers (received)	0.233	(0.172)	0.121	(0.180)
Donation	-8.406	(4.028)**	0.239	(3.552)
Acquaintance ratio	-0.009	(0.012)	0.023	(0.019)
Farm/livestock	-0.157	(0.142)	-0.021	(0.237)
Fishery	0.189	(0.217)	-1.158	(0.485)**
Trade	0.888	(0.174)***	0.528	(0.302)*
Business	-0.101	(0.197)	0.127	(0.273)
Government officer	-0.106	(0.185)	-0.375	(0.333)
Relative income	0.375	(0.075)***	0.425	(0.146)***
Mean village income	-0.014	(0.014)	-0.042	(0.020)**
Gini coefficient	-2.375	(1.820)	-2.217	(1.936)
Number of officers	0.016	(0.066)	0.626	(0.280)**
Group M	0.281	(0.284)	-1.398	(0.656)*
M*Mean village income	-0.013	(0.017)	0.073	(0.024)***
Group L	-0.037	(0.454)	-1.605	(0.969)*
L*Mean village income	0.014	(0.023)	0.100	(0.035)***
Constant	0.454	(1.603)	-1.515	(1.936)
Observations	409		476	
Log pseudolikelihood	-179.9		-199.0	

Note: * Significant at the 10% level. ** Significant at the 5% level. *** Significant at the 1% level. Since the dependent variable is a proportion, we estimated a generalized linear model with a logit link and the binomial family, and adjusted standard errors for correlations within individuals. Robust standard errors are in parentheses.

Figure 1: Mean income of households by types of transfers

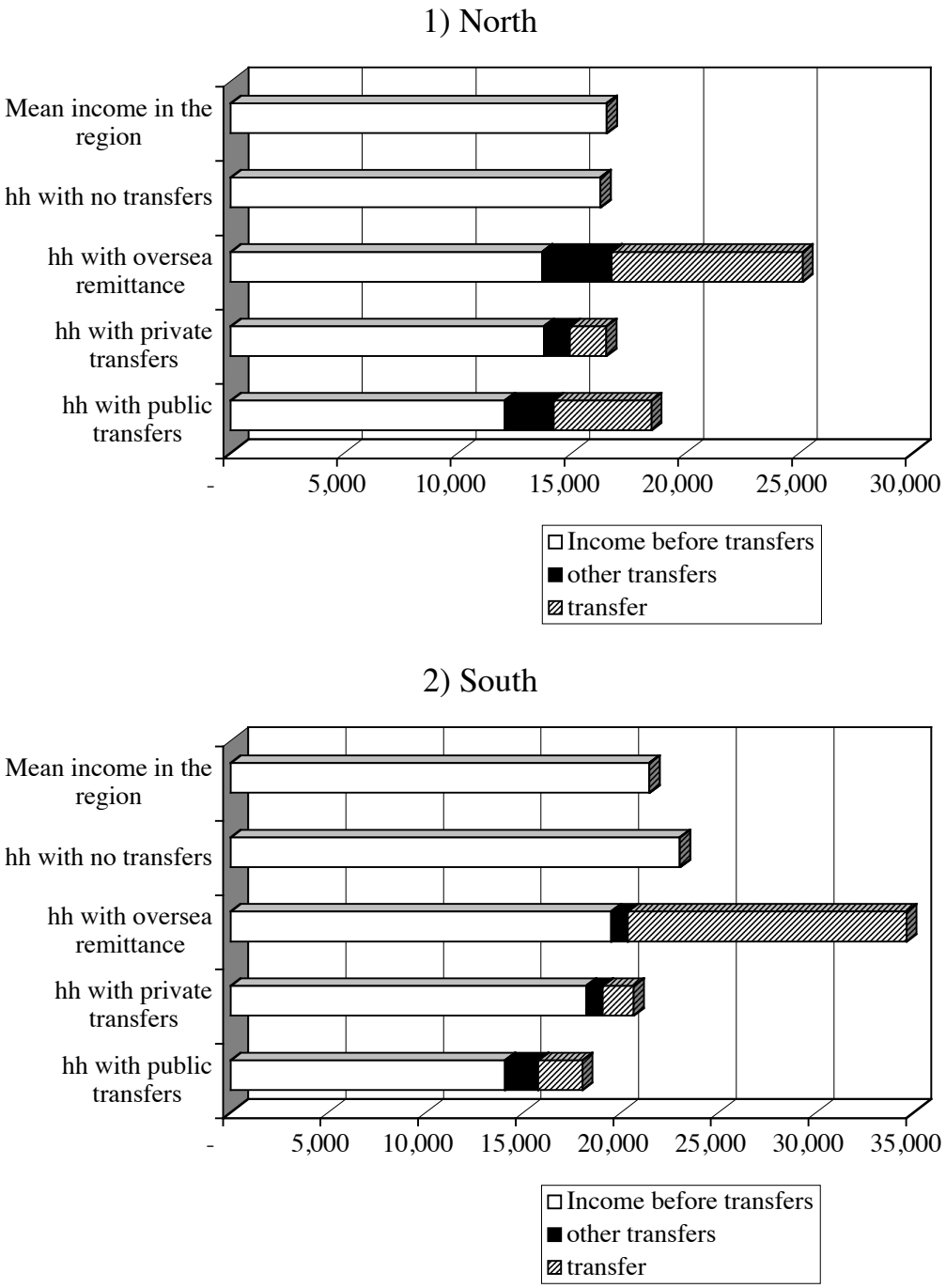
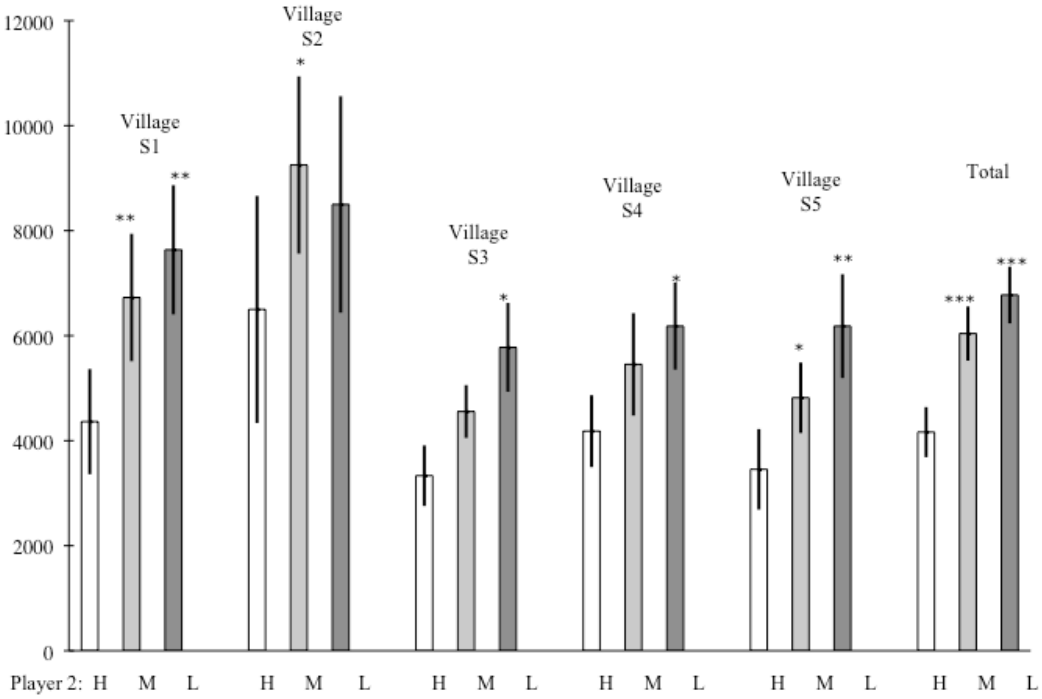
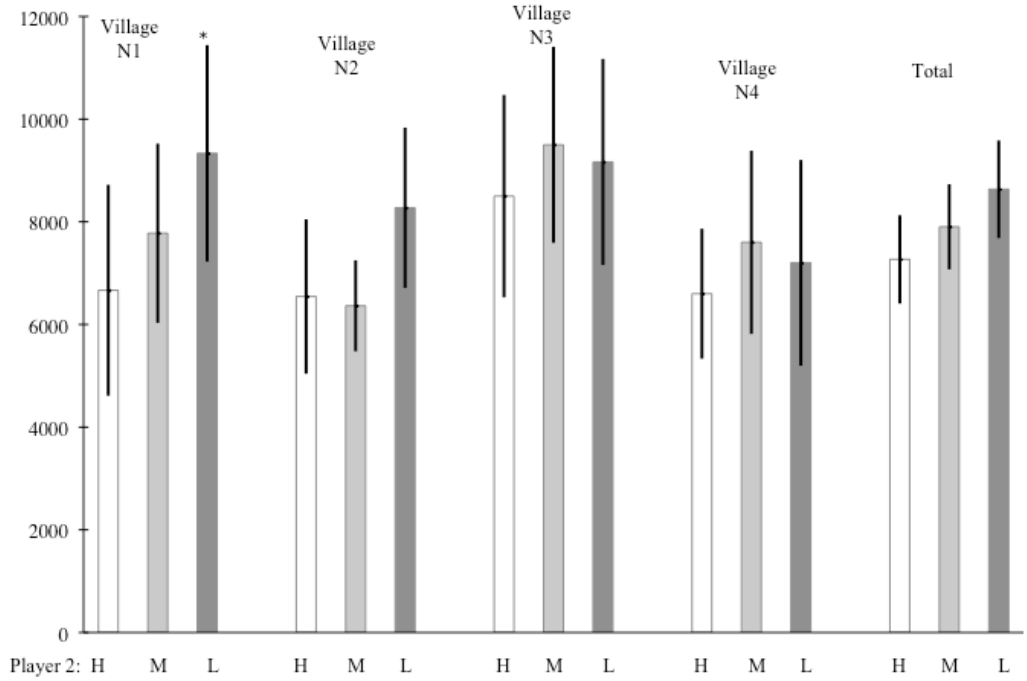


Figure 2: Mean amount sent by Player 1 (sender) in each village
South



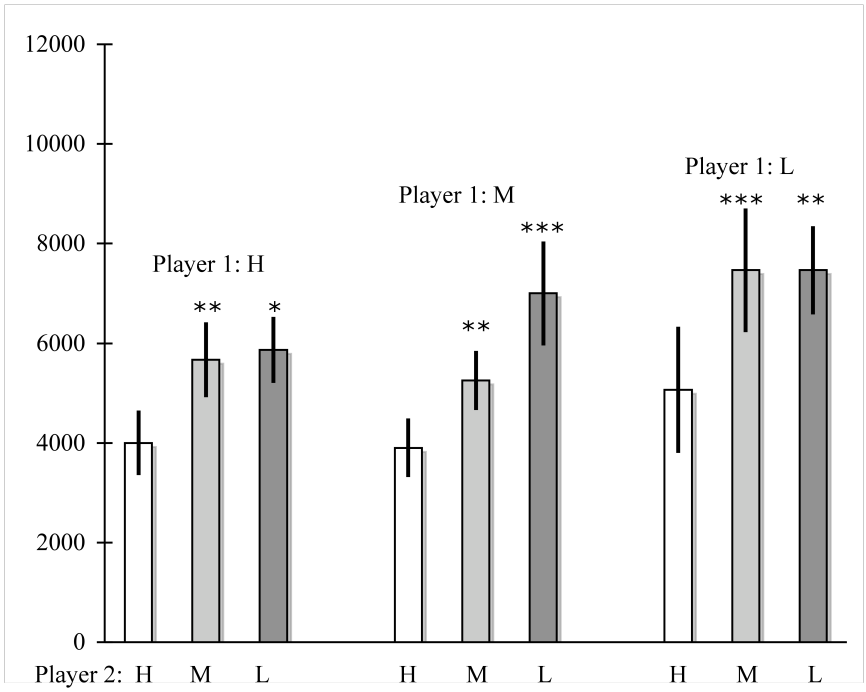
North



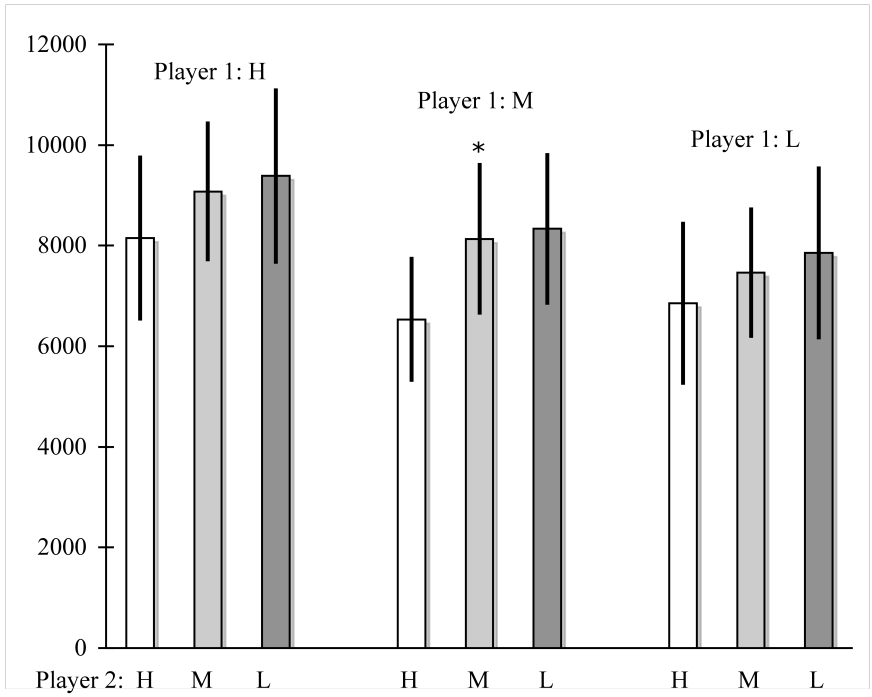
*, **, and *** indicate the amount sent to this group is significantly higher the amount sent to Group H at the 10%, 5%, and 1% significance levels by paired t-test, respectively. The bars are standard errors. Groups H, M and L are high-income, middle-income, and low-income groups, respectively.

Figure 3: Mean amount sent by Player 1 by income groups of Player 1 and Player 2

South



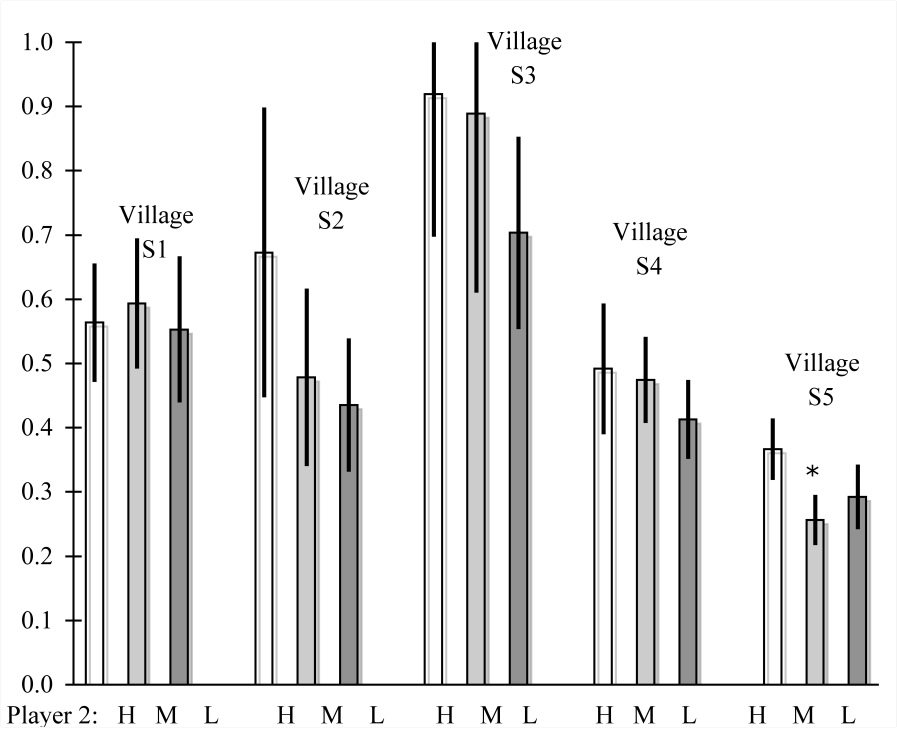
North



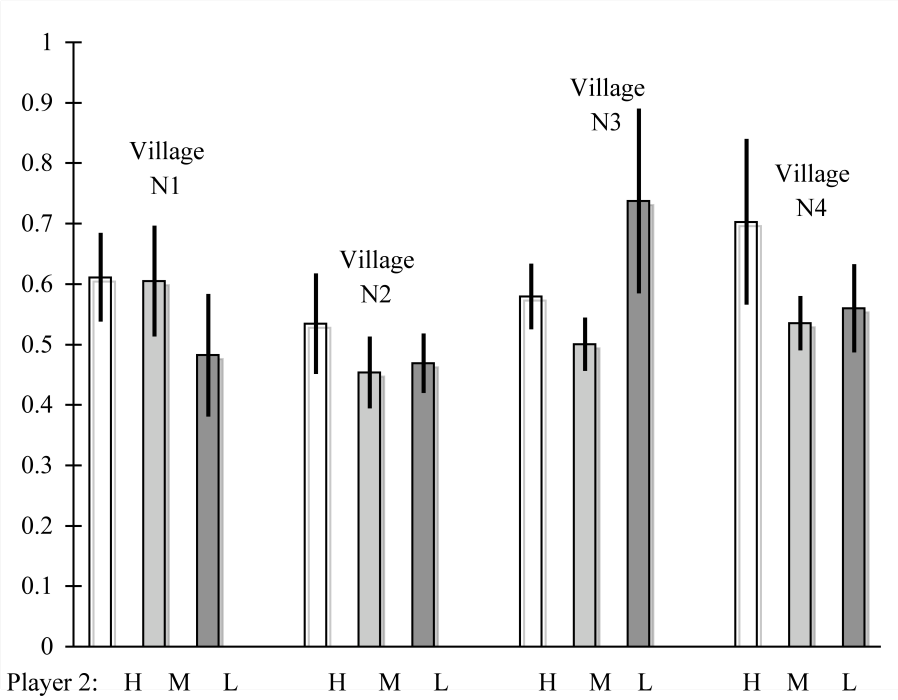
*, **, and *** indicate the amount sent to this group is significantly higher the amount sent to Group H at the 10%, 5%, and 1% significance levels by paired t-test, respectively. The bars are standard errors.

Figure 4: The ratio of expected return by income group of Player 2 in each village

South



North

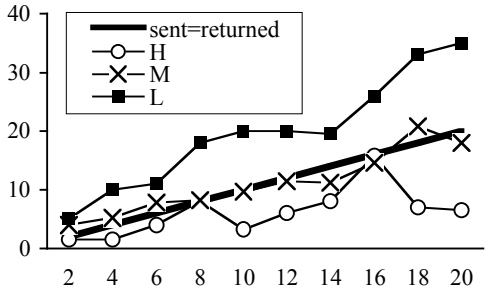


* indicates the expected return rate to this group is significantly lower than the expected return rate of Group H at the 10% significance levels by paired t-test**.** The bars are standard errors.

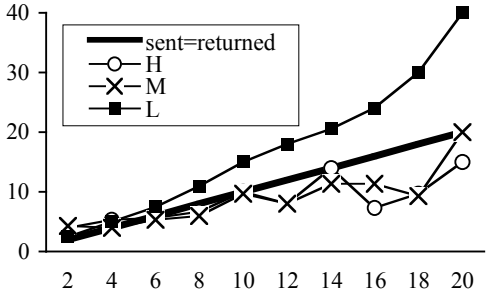
Figure 5: Amounts sent back by Player 2 (1000 dong)

South

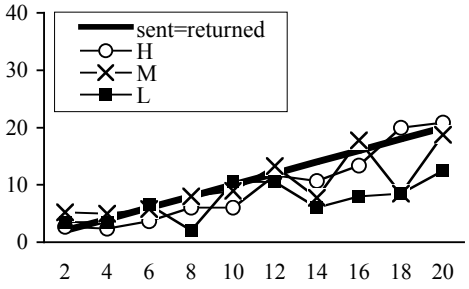
S1



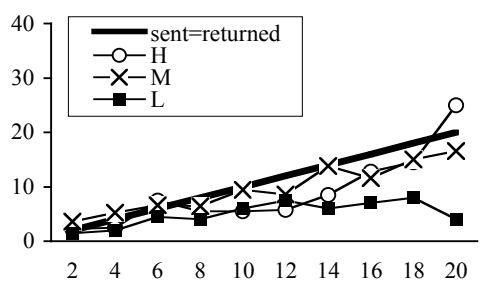
S2



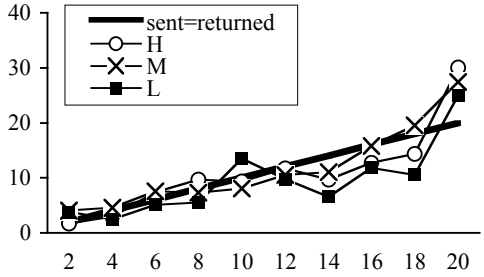
S3



S4

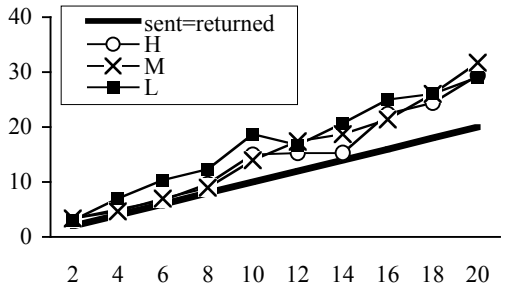


S5

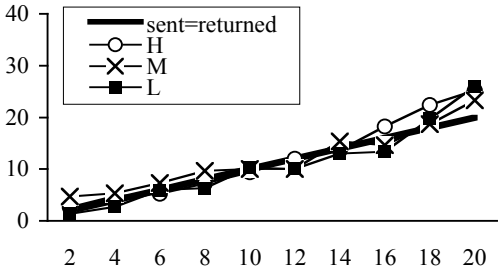


North

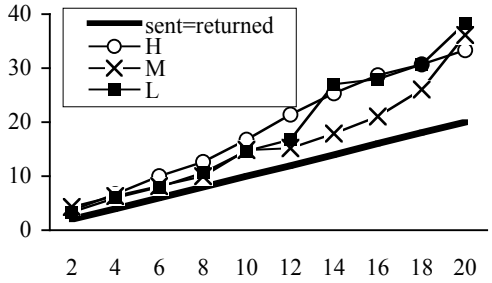
N1



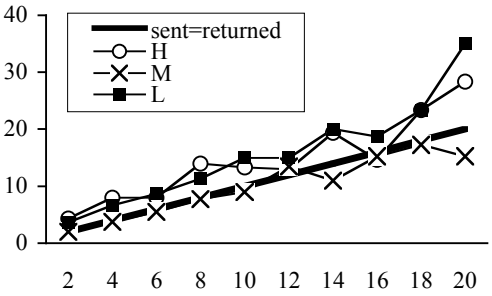
N2



N3



N4



Appendix
Table A.1: Variable definitions

Variable name	Description
Age	Age of the subject
Gender	Gender of the subject, 1=male
Education	Number of years the subject attended school
Acquaintance ratio	Number of other subjects the subject knows by name divided by the total number of subjects in the session
Farm/livestock	Subject's main occupation is farming or raising livestock
Fishery	Subject's main occupation is fishing
Trade	Subject's main occupation is trading
Business	The subject is engaged in household business
Government officer	The subject works for a local government
Relative income	The difference between subject's household income and mean income of the village divided by the standard deviation of income within the village
Mean village income	Mean household income of the village (million dong)
Gini coefficient	Gini coefficient of the income among 25 households surveyed in 2002
Distance to market	Distance to the nearest local market (km)
(Table 2)	
Income before transfers	Total household income minus private transfer, public transfer and oversea remittance received (million dong)
Oversea remittance	The amount of oversea remittance the subject's household received (million dong)
Public transfer	The amount of public transfer the subject's household received (million dong)
Working days	The number of days the household head worked during the survey year
(Table 4)	
Private transfer (received)	The amount of domestic private transfer the subject's household received (million dong)
Private transfer (sent)	The amount of domestic private transfer the subject's household sent (million dong)
Donation	The amount of public donations the subject's household made (million dong)
Number of officers	Number of local government officers in the session
Group M	1=Player 2 is in Group M
Group L	1=Player 2 is in Group L
(Table 5)	
Group M	1=if Player 2 is in Group M
M*Mean village income	The cross effect of Mean village income and Player 2 being in Group M
Group L	1=if Player 2 is in Group L
L*Mean village income	The cross effect of Mean village income and Player 2 being in Group L

Table A.2: Determinants of private transfers with regional interaction terms "North"

	Probability of private transfers		Amount of private transfers	
IIncome before transfers	-0.072	(0.024) ***	-0.029	(0.017) *
* North	0.039	(0.034)	0.032	(0.026)
Mean village income	-0.007	(0.004) *	0.013	(0.003) ***
* North	0.015	(0.005) ***	-0.001	(0.004)
Oversea remittance	-0.115	(0.028) ***	-0.003	(0.016)
* North	0.029	(0.036)	-0.016	(0.017)
Public transfer	-0.017	(0.022)	0.008	(0.017)
* North	-0.060	(0.035) *	-0.020	(0.031)
Sender of private transfers (dummy)	0.338	(0.048) ***	0.138	(0.027) ***
* North	-0.138	(0.108)	-0.049	(0.046)
Education cost (% of income)	0.256	(0.476)	-0.207	(0.231)
* North	0.325	(0.581)	0.047	(0.272)
Health cost (% of income)	0.148	(0.207)	0.335	(0.146) **
* North	0.346	(0.437)	-0.100	(0.165)
Wedding cost (% of income)	2.919	(0.829) ***	6.515	(0.796) ***
* North	-0.437	(1.244)	-2.838	(0.899) ***
Funeral cost (% of income)	1.845	(0.535) ***	0.812	(0.426) *
* North	-1.739	(0.652)	0.093	(0.648)
Male headed (=1 if male headed)	0.011	(0.066)	-0.036	(0.039)
* North	-0.266	(0.099) ***	-0.186	(0.075) **
Education	0.018	(0.007) **	0.017	(0.006) ***
* North	-0.003	(0.012)	0.014	(0.009)
Age	-0.009	(0.010)	0.001	(0.006)
* North	-0.018	(0.016)	0.000	(0.010)
Age^2	0.000	(0.000)	0.000	(0.000)
* North	0.000	(0.000)	0.000	(0.000)
Divorced	0.154	(0.162)	-0.002	(0.068)
* North	-0.289	(0.267)	-0.205	(0.145)
Single	0.063	(0.158)	-0.070	(0.063)
* North	-0.015	(0.236)	-0.092	(0.100)
Widow	0.093	(0.084)	-0.035	(0.052)
* North	-0.089	(0.137)	-0.099	(0.094)
Separated	0.231	(0.255)	-0.094	(0.089)
* North	-0.177	(0.408)	-0.104	(0.134)
Working days	-0.001	(0.003)	-0.001	(0.002)
* North	-0.009	(0.005)	-0.002	(0.004)
Gini coefficient	-1.568	(0.262) ***	-0.238	(0.149)
* North	-0.516	(0.440)	0.049	(0.302)
North	0.903	(0.463) *	0.153	(0.289)
Constant	0.937	(0.291) ***	-0.579	(0.176) ***

Observations	7820	7820
(Pseudo) R^2	0.09	0.05

Note: * Significant at the 10% level. ** Significant at the 5% level. *** Significant at the 1% level. Robust standard errors are in parentheses.

Table A.3: Determinants of the amount sent by Player 1 with regional interaction terms "North"

Chinese	-775	(1,317)	
Age	-48	(145)	
* North	207	(369)	
Age^2	-1	(2)	
* North	-1	(4)	
Gender	1,013	(873)	
* North	1,665	(2,171)	
Education	-379	(104)	***
* North	639	(230)	***
Oversea remittance	10	(16)	
* North	333	(80)	***
Public transfers	460	(852)	
* North	-181	(997)	
Private transfers (received)	-337	(139)	**
* North	983	(258)	***
Private transfers (sent)	1,404	(651)	**
* North	-4,703	(3,499)	
Donation	25,769	(13,985)	*
* North	-10,879	(15,756)	
Acquaintance ratio	1,617	(1,450)	
* North	5,629	(6,420)	
Farm/livestock	-1,910	(1,179)	
* North	77	(2,120)	
Fishery	-3,756	(1,887)	**
* North	-884	(3,363)	
Trade	4,672	(822)	***
* North	-1,736	(2,730)	
Business	-1,863	(950)	*
* North	-3,149	(3,241)	
Government officer	-2,301	(1,268)	*
* North	2,307	(2,300)	
Relative income	-1,213	(587)	**
* North	689	(1,202)	
Mean village income	160	(50)	***
* North	-412	(129)	***
Gini coefficient	-16,432	(7,595)	**
* North	-34,927	(34,029)	
Number of officers	114	(130)	
* North	254	(1,022)	
Group M	1,866	(405)	***
* North	-1,232	(678)	*

Group L	2,589	(614)	***
* North	-1,223	(947)	
North	4,297	(11,644)	
Constant	11,320	(3,592)	***
Observations	270		
Log pseudolikelihood	-378.9		

Note: * Significant at the 10% level. ** Significant at the 5% level. *** Significant at the 1% level. Since the dependent variable is a proportion, we estimated a generalized linear model with a logit link and the binomial family, and adjusted standard errors for correlations within individuals. Robust standard errors are in parentheses.

Table A.4: Determinants of the proportion sent back by Player 2 with regional interactions term "North"

Chinese	0.264	(0.233)	
Age	0.015	(0.047)	
* North	-0.027	(0.063)	
Age^2	0.000	(0.000)	
* North	0.000	(0.001)	
Gender	0.217	(0.216)	
* North	0.520	(0.255)	**
Education	-0.021	(0.030)	
* North	0.000	(0.038)	
Oversea remittance	0.011	(0.017)	
* North	-0.014	(0.018)	
Public transfers	-0.523	(0.173)	***
* North	0.476	(0.178)	***
Private transfers (received)	0.084	(0.059)	
* North	-0.040	(0.066)	
Private transfers (received)	0.121	(0.179)	
* North	0.111	(0.248)	
Donation	0.239	(3.535)	
* North	-8.645	(5.340)	
Acquaintance ratio	0.023	(0.019)	
* North	-0.032	(0.022)	
Farm/livestock	-0.021	(0.236)	
* North	-0.136	(0.274)	
Fishery	-1.158	(0.483)	**
* North	1.346	(0.529)	**
Trade	0.528	(0.300)	*
* North	0.360	(0.346)	
Business	0.127	(0.271)	
* North	-0.228	(0.335)	
Government officer	-0.375	(0.331)	
* North	0.270	(0.379)	
Relative income	0.425	(0.145)	***
* North	-0.050	(0.163)	
Mean village income	-0.042	(0.020)	**
* North	0.029	(0.024)	
Gini coefficient	-2.217	(1.926)	
* North	-0.159	(2.642)	
Number of officers	0.626	(0.279)	**
* North	-0.610	(0.286)	**
Group M	-1.398	(0.653)	**
* North	1.679	(0.711)	**

M*Mean village income	0.073	(0.024)	***
* North	-0.086	(0.029)	***
Group L	-1.605	(0.965)	*
* North	1.568	(1.065)	
L*Mean village income	0.100	(0.035)	***
* North	-0.087	(0.042)	**
North	1.969	(2.500)	
Constant	-1.515	(1.927)	
Observations	910		
R^2	0.38		

Note: * Significant at the 10% level. ** Significant at the 5% level. *** Significant at the 1% level. We conducted robust regressions, and adjusted standard errors for correlations within individuals. Robust standard errors are in parentheses.

Figure A.1: Research sites

Village S1

Village S2

Village S3

Village S4

Village S5

Village N1

Village N2

Village N3

Village N4

Figure A.2: Procedures of trust game (Pictures taken in Village S4)

1) An experimenter reads the instruction.

2) Subjects solve quiz. The few illiterate subjects are helped by research assistants.

3) After solving the quiz, subjects go out of the room and draw numbered balls from a bingo cage, which determines their roles (Player 1 or Player 2). Then, they receive instructions and record sheets.

4) Subjects are helped by research assistants when making decisions.

Instruction

Introductory Comments

Thank you all for taking the time to come today. Today's session will take as much as 4 hours, so if you think you will not be able to stay that long let us know now. Before we begin I want to make some general comments about what we are doing here today and explain the rules that we must follow. We will be playing some games with money. Whatever money you win in the games will be yours to keep and take home.

We will be playing 3 games. We are about to begin the first game. It is important that you listen as carefully as possible.

If you have any questions, please raise your hand and we will answer your questions in private. Please do not ask questions to your friends or talk about the game with them. This is very important. Please be sure that you obey this rule.

Game 1

This game is played by pairs of individuals. Each pair is made up of a Player 1 and a Player 2. Each of you will play this game with someone who's identified as A, B or C. Please look around the room and remember who belong to which Identification Groups, A, B or C. It will help you to make decisions when you go out of the room.

Group A has white nametags and white folders. Group B has yellow nametags and yellow folders. Group C has red nametags and red folders.

After you finish exercises, we will ask you to go out of this room. Our research assistants will be waiting for you outside of this room. You will draw a lottery which will determine whether you will be playing either Player 1 of Player 2. If you draw an odd number such as 1, 3, 5, and 7, you

will play Player 1. If you draw an even number such as 2, 4, 6, and 8, you will play Player 2.

This is how the game is played.

We will give 20,000VND to Player 1 and another 20,000 VND to Player 2. Player 1 then has the chance to give a portion of their 20,000VND to Player 2. He/She could give 2,000VND, 4,000VND, 6,000VND, 8,000VND, 10,000VND, 12,000VND, or 14,000VND, or 16,000VND, or 18,000VND, or 20,000VND, or nothing. Whatever amount Player 1 decides to give to Player 2 will be tripled before it is passed on to Player 2. Player 2 then has the option of returning any amount of money they have to Player 1. Player 2 does not have to return any money if he/she does not want to.

Now, we will go over some examples. We prepared Tables 1-10 to help you understand the game.

Example 1

Please look at Table 1. Imagine that Player 1 gives 2,000VND to Player 2. We will triple this amount, so Player 2 gets 6,000 VND (3 times 2,000 equals 6,000) in addition to their initial 20,000VND. At this point, Player 1 has 18,000VND (20,000 minus 2,000) and Player 2 has 26,000VND (20,000 plus 6,000).
Now Player 2 has to decide whether they wish to give anything back to Player 1, and if so, how much.

- If Player 2 returns nothing to Player 1, then Player 1 will make 18,000 VND, and Player 2 will make 26,000 VND in this game.
- Suppose Player 2 decides to return 1,000 VND to Player 1. Then, Player 1 will make 19,000 VND (18,000 plus 1,000), and Player 2 will make 25,000 VND (26,000 minus 1,000).
- Suppose Player 2 decides to return 2,000 VND to Player 1. Then, Player 1 will

make 20,000 VND, and Player 2 will make 24,000 VND.

- Suppose Player 2 decides to return 3,000 VND to Player 1. Then, Player 1 will earn 21,000 VND, and Player 2 will earn 23,000 VND.
- Suppose Player 2 decides to return 4,000 VND to Player 1. Then, both Player 1 and Player 2 will earn 22,000 VND.
- Suppose Player 2 decides to return 5,000 VND to Player 1. Then, Player 1 will earn 23,000 VND, and Player 2 will earn 21,000 VND.
- Suppose Player 2 decides to return 6,000 VND to Player 1. Then, Player 1 will earn 24,000 VND, and Player 2 will earn 20,000 VND.

Let's try another example.

Example 2

Let's look at Table 8. Imagine that Player 1 gives 16,000VND to Player 2. We will triple this amount, so Player 2 gets 48,000VND (3 times 16,000 equals 48,000) in addition to their initial 20,000VND. At this point, Player 1 has 4,000VND and Player 2 has 68,000VND.
Then Player 2 has to decide whether they wish to give anything back to Player 1, and if so, how much.

- If Player 2 returns nothing to Player 1, then Player 1 will earn 4,000VND, and Player 2 will earn 68,000 VND.
- Suppose Player 2 decides to return 8,000VND to Player 1. Player 1 will earn 12,000VND and Player 2 will earn 60,000VND.
- Suppose Player 2 decides to return 16,000VND to Player 1. Player 1 will earn 20,000VND and Player 2 will earn 52,000VND.
- Suppose Player 2 decides to return 24,000VND to Player 1. Player 1 will earn 28,000VND and Player 2 will earn 44,000VND.
- Suppose Player 2 decides to return 32,000VND to Player 1. Both Player 1 and Player 2 will earn 36,000VND.

- Suppose Player 2 decides to return 40,000VND to Player 1. Player 1 will earn 44,000VND, and Player 2 will earn 28,000VND.
- Suppose Player 2 decides to return 48,000VND to Player 1. Player 1 will earn 52,000VND, and Player 2 will earn 20,000VND.

In the real game, Player 1 could give only 2,000VND, 4,000VND, 6,000VND, 8,000VND, 10,000VND, 12,000VND, or 14,000VND, or 16,000VND, or 18,000VND, or 20,000VND, or nothing. They cannot choose any other amount. Player 2 can send back any amount of money they want or nothing. It does not have to be the same as the ones shown in Tables 1-10. Tables 1-10 are given just as references for Player 2.

Please complete the following exercises by filling the parentheses ( ).
You may want to use Tables 1-10 to help you solve them. If you have questions or do not understand the game, please let us know. We are very happy to help you. When you finish all 4 exercises, please raise your hand.

Exercise 1.

Imagine Player 1 gives 12,000VND to Player 2.
We will triple this amount, so Player 2 gets ( ) VND in addition to their initial 20,000VND.
At this point, Player 1 has ( ) VND
and Player 2 has ( ) VND.
Suppose Player 2 decides to return 6,000VND to Player 1.
Player 1 will earn ( ) VND and Player 2 will earn ( ) VND.

Exercise 2.

Imagine Player 1 gives 6,000VND to Player 2.
We will triple this amount, so Player 2 gets ( )VND in addition to their initial 20,000VND.
At this point, Player 1 has ( )VND
and Player 2 has ( )VND.

Suppose Player 2 decides to return 6,000VND to Player 1.

Player 1 will earn ( )VND and Player 2 will earn ( )VND.

Exercise 3.

Imagine Player 1 gives 18,000VND to Player 2.

We will triple this amount, so Player 2 gets ( )VND in addition to their initial 20,000VND.

At this point, Player 1 has ( )VND

and Player 2 has ( )VND.

Suppose Player 2 decides to return 9,000VND to Player 1.

Player 1 will earn ( )VND and Player 2 will earn ( )VND.

Exercise 4.

Imagine Player 1 gives 20,000VND to Player 2.

We will triple this amount, so Player 2 gets ( )VND in addition to their initial 20,000VND.

At this point, Player 1 has ( )VND

and Player 2 has ( )VND.

Suppose Player 2 decides to return 39,000VND to Player 1.

Player 1 will earn ( )VND and Player 2 will earn ( )VND.

After you complete above exercises, we will ask you to go out of the room to make decisions.

Table 1

Suppose Player 1 sends 2,000VND to Player 2.

Then, Player 2 will receive 6,000VND.

	Player 1 earns	Player 2 earns	Total
If Player 2 returns nothing,	18,000	26,000	44,000
If Player 2 returns 1,000VND,	19,000	25,000	44,000
If Player 2 returns 2,000VND,	20,000	24,000	44,000
If Player 2 returns 3,000VND,	21,000	23,000	44,000
If Player 2 returns 4,000VND,	22,000	22,000	44,000
If Player 2 returns 5,000VND,	23,000	21,000	44,000
If Player 2 returns 6,000VND,	24,000	20,000	44,000

Table 2

Suppose Player 1 sends 4,000VND to Player 2.

Then, Player 2 will receive 12,000VND.

	Player 1 earns	Player 2 earns	Total
If Player 2 returns nothing,	16,000	32,000	48,000
If Player 2 returns 2,000VND,	18,000	30,000	48,000
If Player 2 returns 4,000VND,	20,000	28,000	48,000
If Player 2 returns 6,000VND,	22,000	26,000	48,000
If Player 2 returns 8,000VND,	24,000	24,000	48,000
If Player 2 returns 10,000VND,	26,000	22,000	48,000
If Player 2 returns 12,000VND,	28,000	20,000	48,000

Table 3

Suppose Player 1 sends 6,000VND to Player 2.

Then, Player 2 will receive 18,000VND.

	Player 1 earns	Player 2 earns	Total
If Player 2 returns nothing,	14,000	38,000	52,000
If Player 2 returns 3,000VND,	17,000	35,000	52,000
If Player 2 returns 6,000VND,	20,000	32,000	52,000
If Player 2 returns 9,000VND,	23,000	29,000	52,000
If Player 2 returns 12,000VND,	26,000	26,000	52,000
If Player 2 returns 15,000VND,	29,000	23,000	52,000
If Player 2 returns 18,000VND,	32,000	20,000	52,000

Table 4

Suppose Player 1 sends 8,000VND to Player 2.

Then, Player 2 will receive 24,000VND.

	Player 1 earns	Player 2 earns	Total
If Player 2 returns nothing,	12,000	44,000	56,000
If Player 2 returns 4,000VND,	16,000	40,000	56,000
If Player 2 returns 8,000VND,	20,000	36,000	56,000
If Player 2 returns 12,000VND,	24,000	32,000	56,000
If Player 2 returns 16,000VND,	28,000	28,000	56,000
If Player 2 returns 20,000VND,	32,000	24,000	56,000
If Player 2 returns 24,000VND,	36,000	20,000	56,000

Table 5

Suppose Player 1 sends 10,000VND to Player 2.

Then, Player 2 will receive 30,000VND.

	Player 1 earns	Player 2 earns	Total
If Player 2 returns nothing,	10,000	50,000	60,000
If Player 2 returns 5,000VND,	15,000	45,000	60,000
If Player 2 returns 10,000VND,	20,000	40,000	60,000
If Player 2 returns 15,000VND,	25,000	35,000	60,000
If Player 2 returns 20,000VND,	30,000	30,000	60,000
If Player 2 returns 25,000VND,	35,000	25,000	60,000
If Player 2 returns 30,000VND,	40,000	20,000	60,000

Table 6

Suppose Player 1 sends 12,000VND to Player 2.

Then, Player 2 will receive 36,000VND.

	Player 1 earns	Player 2 earns	Total
If Player 2 returns nothing,	8,000	56,000	64,000
If Player 2 returns 6,000VND,	14,000	50,000	64,000
If Player 2 returns 12,000VND,	20,000	44,000	64,000
If Player 2 returns 18,000VND,	26,000	38,000	64,000
If Player 2 returns 24,000VND,	32,000	32,000	64,000
If Player 2 returns 32,000VND,	38,000	26,000	64,000
If Player 2 returns 36,000VND,	44,000	20,000	64,000

Table 7

Suppose Player 1 sends 14,000VND to Player 2.

Then, Player 2 will receive 42,000VND.

	Player 1 earns	Player 2 earns	Total
If Player 2 returns nothing,	6,000	62,000	68,000
If Player 2 returns 7,000VND,	13,000	55,000	68,000
If Player 2 returns 14,000VND,	20,000	48,000	68,000
If Player 2 returns 21,000VND,	27,000	41,000	68,000
If Player 2 returns 28,000VND,	34,000	34,000	68,000
If Player 2 returns 35,000VND,	41,000	27,000	68,000
If Player 2 returns 42,000VND,	48,000	20,000	68,000

Table 8

Suppose Player 1 sends 16,000VND to Player 2.

Then, Player 2 will receive 48,000VND.

	Player 1 earns	Player 2 earns	Total
If Player 2 returns nothing,	4,000	68,000	72,000
If Player 2 returns 8,000VND,	12,000	60,000	72,000
If Player 2 returns 16,000VND,	20,000	52,000	72,000
If Player 2 returns 24,000VND,	28,000	44,000	72,000
If Player 2 returns 32,000VND,	36,000	36,000	72,000
If Player 2 returns 40,000VND,	44,000	28,000	72,000
If Player 2 returns 48,000VND,	52,000	20,000	72,000

Table 9

Suppose Player 1 sends 18,000VND to Player 2.

Then, Player 2 will receive 54,000VND.

	Player 1 earns	Player 2 earns	Total
If Player 2 returns nothing,	2,000	74,000	76,000
If Player 2 returns 9,000VND,	11,000	65,000	76,000
If Player 2 returns 18,000VND,	20,000	56,000	76,000
If Player 2 returns 27,000VND,	29,000	47,000	76,000
If Player 2 returns 36,000VND,	38,000	38,000	76,000
If Player 2 returns 45,000VND,	47,000	29,000	76,000
If Player 2 returns 54,000VND,	56,000	20,000	76,000

Table 10

Suppose Player 1 sends 20,000VND to Player 2.

Then, Player 2 will receive 60,000VND.

	Player 1 earns	Player 2 earns	Total
If Player 2 returns nothing,	0	80,000	80,000
If Player 2 returns 10,000VND,	10,000	70,000	80,000
If Player 2 returns 20,000VND,	20,000	60,000	80,000
If Player 2 returns 30,000VND,	30,000	50,000	80,000
If Player 2 returns 40,000VND,	40,000	40,000	80,000
If Player 2 returns 50,000VND,	50,000	30,000	80,000
If Player 2 returns 60,000VND,	60,000	20,000	80,000

Instruction to Player 1

You are Player 1. You are given 20,000VND. I would like you to decide how much money you want to send to Player 2. You can send Player 2 nothing, 2,000VND, 4,000VND, 6,000VND, 8,000VND, 10,000VND, 12,000VND, 14,000VND, 16,000VND, 18,000VND, or 20,000VND.

Please write down how much money you want to send to Player 2 if his/her ID is A, B, or C, respectively. After we collect the record sheets from all participants, we will randomly match you with someone who was assigned a role of Player 2. At this time we don't know who is receiving your money or what their ID is. So, please write down the amounts you want to send to Player 2, depending on their ID (A, B or C). Also, please write down how much money you think Player 2 will return to you.

After you complete the record sheet, please give it back to me. Please do not go back to the room until all participants finish playing the game. We will call you back to the room when we are ready for the next game. While you are waiting, please fill in the questionnaire.

Please do not discuss the game with your friends while you are waiting.

Record Sheet - Game 1 (Player 1)-

Please fill in the following parentheses ( ).

A.

I want to send ( ) VND to Player 2 if his/her ID is **A**.

The money will be tripled, so Player 2 will get ( )VND in addition to his/her initial 20,000VND.

I think Player 2 will return ( )VND to me.

B.

I want to send ( ) VND to Player 2 if his/her ID is **B**.

The money will be tripled, so Player 2 will get ( )VND in addition to his/her initial 20,000VND.

I think Player 2 will return ( )VND to me.

C.

I want to send ( ) VND to Player 2 if his/her ID is **C**.

The money will be tripled, so Player 2 will get ( )VND in addition to his/her initial 20,000VND.

I think Player 2 will return ( )VND to me.

You can choose either the same amount of money or different amounts of money for each case (for each ID).

Your decisions will remain confidential.

Instruction to Player 2

You are Player 2. You are given 20,000VND. In addition to 20,000VND, you will receive some money from Player 1. you must decide how much money you want to send back to Player 1. You may want to refer to Tables 1-10 to make your decisions. However, you can send back any amount of money you want. It does not have to be the same as the ones in the Tables 1-10. Or you may send nothing.

Please write down how much money you want to return to Player 1 depending on the amount he/she sends to you. After we collect the record sheets from all participants, we will randomly match you with someone who was assigned a role of Player 1. At this time we don't know who is sending you money, or how much he/she is sending you. So, please write down the amounts you want to return to Player 1, contingent on how much he/she sends to you.
After you complete the record sheet, please give it back to me. Please do not go back to the room until all participants finish playing the game. We will call you back to the room when we are ready for the next game. While you are waiting, please fill in the questionnaire.

Please do not discuss the game with your friends while you are waiting.

Record Sheet - Game 1 (Player 2)-

If Player 1 sends me 2,000 VND, I will return ( )VND.

If Player 1 sends me 4,000 VND, I will return ( )VND.

If Player 1 sends me 6,000 VND, I will return ( )VND.

If Player 1 sends me 8,000 VND, I will return ( )VND.

If Player 1 sends me 10,000 VND, I will return ( )VND.

If Player 1 sends me 12,000 VND, I will return ( )VND.

If Player 1 sends me 14,000 VND, I will return ( )VND.

If Player 1 sends me 16,000 VND, I will return ( )VND.

If Player 1 sends me 18,000 VND, I will return ( )VND.

If Player 1 sends me 20,000 VND, I will return ( )VND.

Your decisions will remain confidential.